

Of "periodicity" so strong as to deserve the name "recurrent," we note one case as remarkable. A fine-looking and intelligent old lady, now sixty-five, who has been the mother of several children, had a first attack at twenty years of age. Though somewhat irregularly, she has had them ever since, occasionally severe, frequently slight. Her maniacal attacks, though quite severe at times, are usually short, being over in a week or two. Her quiet spells often last six months. At her best she is still quite clear and shrewd, though a little of mental weakness is to be noted. Her mother had a similar trouble.

Our population coming from a State which admits old and young, rich and poor, and completely without cost to themselves, and which has no private asylum within its bounds, our conclusions ought to be the more accurate. Our recovery rate will, of course, be somewhat increased by subsequent recoveries.

Pathological Supplement to the Annual Report of the Government Hospital for the Insane, 1893.—I. W. Blackburn, special pathologist.

SUMMARY.

The one hundred and four cases of melancholia studied in this report comprise all the examinations of this form of mental disease made since the establishment of the pathological department of the hospital. Ninety-four of the cases were males, ten females; eight of the males were colored; all of the females were white.

The clinical subdivisions of melancholia have not been given, and the division of the cases into acute and chronic has only been indicated by the duration given in each case. It must be understood that some degree of terminal dementia existed in all the chronic cases, and that in some the mental failure was almost complete. In some of the cases senile failure of mental power must be assumed to have existed in addition to the symptoms of melancholia.

The study of these cases was undertaken without the hope of adding materially to our knowledge of the special pathology of melancholia, but rather with

especial reference to accompanying physical conditions, many of which may have had a direct causative relation to the disturbance of brain function.

It was at first intended to group the cases in a tabular form, but it was soon found that almost every case possessed some individual interest; enough, it was thought, to justify a brief synopsis of each and a summary of the most interesting points observed in all.

Lesions of the skull of pathological importance were not very common; exostoses on the inner table were found in two cases; the skull was thinner than the average in twenty cases, one of which was colored; it was thicker than usual in twenty-seven cases, five of which were colored; in seven of these the skull was denser than normal. Abnormal density without appreciable thickening was observed in eleven cases. In many of the above the deviation from the average was very slight and unimportant and probably had nothing to do with the mental disease. Slight peculiarities of shape were observed in a few cases.

The dura mater was adherent to the skull bones in many cases, but principally in elderly persons, and, therefore, of slight pathological value; various degrees of internal pachymeningitis were found in twelve cases and in one of these a large hæmatoma had been formed. Hemorrhage into the subdural space was present in two cases; in each the ruptured vessel was in the pia mater.

The pia mater showed more or less opacity and thickening in many cases, and in all showing atrophy of the convolutions; the membranes were oedematous. In thirty of the cases the pial veins were noticeably full of blood; in the remainder of the brains examined they were normal in appearance or comparatively empty. Forty-three cases showed some disease of the cerebral arteries, though in the greater number it was slight.

In almost every case where the disease had existed for some time decided atrophic changes were found in the convolutions, nearly always most noticeable over the fronto-parietal convexity and the anterior portions of the median surfaces. Some cases of remarkable shrinkage were found in those of less than a year's duration, and some very heavy brains showed some atrophy of the convolutions over the anterior portions of the hemispheres. Of course, the atrophy due to miasmatic conditions and to old age must be taken into consideration in individual cases, but the frequency of the localization

of the shrinkage in the supposed mental regions suggests a direct relation of the atrophy to the mental failure.

The average weight of the male brain which were weighed, 88 in number, was 47.005 ounces; of the female brains, 7 in number, the average was 43.62 ounces. The heaviest brain of the males weighed 61 ounces; the lightest weighed $35\frac{3}{4}$ ounces. The heaviest female brain weighed $48\frac{1}{2}$ ounces; the lightest, $40\frac{3}{4}$ ounces. The average weight of the brain in 49 males over 50 years of age was 46.418 ounces; in 39 males under 50 years of age the average was 47.743 ounces, showing that the age of the patients had something to do with the reduction in weight. In 13 cases of males in whom the mental disease had existed less than a year the average weight of the brain was 49.1 ounces. It should be noticed, however, that four of these brains weighed over 50 ounces, and one weighed 61 ounces. The average weight of the brain in 75 males in whom the disease had existed over one year was 46.64 ounces.

Chronic softenings of the brain were found in twenty-six cases; in the majority, however, the lesions were small. They were usually located in the cortex or in the region of the basal ganglia, and were commonly associated with atheroma of the cerebral arteries.

General reduction of consistence, œdema, and enlargement of the perivascular spaces were found in various degrees in nearly all the chronic cases, and frequently in minor degrees in the more acute cases. Dilatation of the ventricles was commonly found in connection with œdema and atrophic changes in other parts of the brain; the ependyma was granulated in a few cases.

Lesions of the cerebellum, pons, and medulla were not common, and the spinal cords were generally found to be normal.

The microscopical examination of the brain added but little to the naked eye appearances. In the chronic cases degenerative changes in the nerve cells were demonstrated in nearly every case, but it is, of course, difficult to decide how much of this change should be considered as directly related to the mental disease either as cause or effect. Vascular degenerative changes were common, such as tortuosity of the vessels, pigment granules, and red blood corpuscles along the vessel walls, etc. In the acute cases it must be acknowledged that structural alterations could not usually be discov-

ered, though some showed decided degenerative changes in the nerve cells and vessels, which were, no doubt, closely connected with the mental symptoms.

Of the diseases of other organs, tuberculosis of the lungs was found in thirty-five cases. The disease was found accompanied by tubercular infection of other organs, and was in many cases the direct or indirect cause of death. Three deaths were due to pneumonia; one to gangrene of the lungs, and two to tubercular pyothorax.

The heart showed valvular disease accompanied by hypertrophy and dilatation in at least eight cases, and chronic disease of the valves without important effect upon the heart walls occurred in at least fourteen others. There were six cases of atrophy of the heart, usually in connection with phthisis, one case of specific myocarditis with perforation of the septum, and one aneurism of the aorta.

The diseases of the kidneys were usually chronic in character. In thirty-five cases they presented a degree of contraction deemed of pathological importance, shown by adhesion of capsules, granular surfaces, cortical atrophy, and reduction in weight. In sixteen cases lesser degrees of contraction existed, but the function of the organs had probably been very slightly impaired. There were four cases of pyelonephritis with cystitis; two of tubercular abscesses of the kidneys, one horseshoe kidney and one kidney with two ureters.

As time did not admit of microscopical examination of all the kidneys it is probable that some cases of acute degenerative changes in the renal epithelium escaped observation, but as these are usually dependent upon other physical conditions and could have had no relation to the mental disease the omission was considered unimportant.

Gross lesions of the liver were uncommon. Passive congestion was of frequent occurrence in connection with heart and lung diseases; tubercles were found in a few cases and biliary calculi were found in thirteen cases.

Five malignant tumors were found, all of which were carcinomata; in one case the prostate gland was the seat of the primary tumor.

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